

Remarks

Claims 1, 2, 4-13 and 15-21 were pending in the application when last examined. Claims 5 and 6 are indicated to be allowable if rewritten in independent form, and the rest of the claims stand rejected. Claims 1, 4, 5, 12, 15, and 16 are amended. Claims 10 and 20 are canceled.

Claim Objections

Claims 4 and 15 are objected to for depending from canceled claims. Corrections have been made.

Claim Rejections – 35 USC §103

Claims 1, 2, 4, 6, 8-15, 17, and 19-21 are rejected under 35 USC 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0015028 to Park (“Park”) in view of U.S. Patent Application Publication No. 2006/0033695 to Kudo et al. (“Kudo”).

Independent Claim 1 is patentable over Park and Kudo at least because it recites “... a gray voltage generator receiving ... digital gamma signals that are useful for generating independent gamma curves for the different pixel colors and converting the digital gamma signals into analog gamma reference voltages” This element is similar to what was previously recited in Claim 10, which is now canceled. The latest Office Action rejected Claim 10 on the basis that Kudo’s FIG. 16 (control register 301) teaches this element. However, Kudo’s FIG. 16 does not show a gray voltage generator that receives digital gamma signals that are useful for generating independent gamma curves for different pixel colors from a signal controller. Kudo’s gray scale voltage generating circuit has a resistance ladder for adjusting the gray scale levels (Kudo, paragraph 51) but there is no mention of this circuit receiving digital gamma signals for generating independent gamma curves for different pixel colors. Thus, Kudo does not teach the gray voltage generator of the type that is recited in Claim 1. Similarly, Park fails to teach “a gray voltage generator receiving the digital gamma signals that are useful for generating independent gamma curves for the different pixel colors....” The Office Action reads Park’s memory 32, decoder 33, and D/A converter 34 as constituting the “gray voltage generator” but there is no mention of these components receiving digital gamma signals that are useful for generating independent gamma curves for the different pixel colors.

Claim 1 is also patentable over Park and Kudo for the additional reason that it recites "... a data driver ... [that] converts each one of the image data to a corresponding data voltage by selecting one of the gray voltages based on the analog gamma reference voltages that is associated with the same pixel color as the image data." Neither Park nor Kudo discloses or suggests a data driver that performs the functions recited in Claim 1.

Claims 2, 4, 6, 8, 9, and 11 depend from Claim 1 and are patentable over Park and Kudo for the reasons stated above.

Claim 10 is canceled.

Independent Claim 12 is patentable over Park and Kudo because it recites "... a signal controller ... [that] has a register for storing a predetermined number of digital gamma data that are useful for generating independent gamma curves for different pixel colors" Although the Office Action points to Kudo's FIG. 16 as disclosing a signal controller that generates gray voltage signals specific to the different pixel colors, Kudo's FIG. 16 does not even show a signal controller. Rather, Kudo's FIG. 16 depicts the control register 301 and the gray scale voltage generating circuit 302, both of which are part of the signal line driving circuit 902 (see Kudo, FIG. 9). Kudo does not provide many details about the functions of its signal controller and fails to mention whether its signal controller has the type of register recited in Claim 12.

Page 4 of the Office Action indicates that Kudo's signal controller is a combination of MPU 906, system interface 907, and control register 301. If Kudo's control register 301 were considered to be part of the signal controller, then Claim 12 would be patentable over Park and Kudo because it recites "a gray voltage generator ... including: a first color-specific gamma voltage register; and a second color-specific gamma voltage register", which would not be taught in Park or Kudo. Hence, Claim 12 is patentable over Park and Kudo regardless of whether Kudo's control register 301 is considered to be part of the signal controller or part of the gray voltage generator.

Claims 13, 15, 17, 19, and 21 depend from Claim 12 and are therefore patentable over Park and Kudo for the same reasons as Claim 12.

Claim 20 is canceled.

Claims 7 and 18 are rejected under 35 USC 103(a) as being unpatentable over Park and Kudo and further in view of U.S. Patent No. 5,091,722 to Kitajima et al. ("Kitajima").

These rejections assume that Park and Kudo teach all the elements of Claims 1 and 12 from which Claims 7 and 18 depend. However, as explained above, Park and Kudo in fact do not teach all the elements of Claims 1 and 12. Thus, Claims 7 and 18 are patentable over Park, Kudo, and Kitajima.

Allowable Subject Matter

Claims 5 and 16 are written in independent form and now in condition for allowance.

Conclusion

Based on the foregoing, Claims 1, 2, 4-9, 11-13, 15-19, and 21 are now in condition for allowance. Please telephone the undersigned attorney at (408) 392-9250 if there are any questions.

Respectfully submitted,

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Dated: Jan. 3, 2008

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